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09/990,077	11/21/2001	Hsien-Chung Woo	0023-0158	1510

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EXAMINER

ABELSON, RONALD B

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 09/990,077	Applicant(s) WOO, HSIEN-CHUNG	
	Examiner Ronald Abelson	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-24 and 27-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-24 and 27-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mazzurco (US 7187649) in view of Parikh (US 4,551,836), and Okabe (US 6,031,838).

Regarding claim 16, Mazzurco teaches an ingress port for receiving an incoming stream of data packets (fig. 2 box 28); a switchover unit, when a group of three or more forwarding planes are connectable to the interface module the switchover unit being configured to select two forwarding planes of the group (fig. 2 channels 24a, 24b, 26, col. 3 lines 3-5); a transfer unit configured to transmit the data packets contained in the received incoming stream to each of two forwarding planes connectable to the interface module or the selected two forwarding planes (fig. 2: note lines 24a and 24b are

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transmitting to input ports of receiver 14). Note, examiner corresponds the forwarding planes of the applicant to both units "WKG" and "PROTN" of the receiver 14.

Mazzurco teaches an egress port for transmitting an outgoing stream of data packets (fig. 2 box 30), wherein the switchover unit is configured to select one of the two forwarding planes or the selected two forwarding planes and to form the outgoing stream of data packets from data packets received from the selected forwarding plane (unfailed working channels, col. 3 lines 12-17).

Mazzurco is silent on wherein identical state information is maintained in the two forwarding planes or the selected two forwarding planes based upon state information obtained from the transmitted data packets.

Parikh teaches identical state information is maintained in the two forwarding planes or the selected two forwarding planes (col. 2 lines 37-39).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Mazzurco by storing identical state information in the switching fabrics (Mazzurco: fig. 2 units "WKG" and "PROTN" of the receiver 14). This modification can be performed in software. The suggestion for

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the modification is the standby processor can be selected if the active processor fails (Parikh: col. 2 lines 37-39).

The combination is silent on the state information obtained from the transmitted data packets.

Okabe teaches the state / control information being obtained from the incoming data packets (adding, onto cell header, active/standby identification, col. 4 lines 8-11).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by transmitting state information / (active standby) in the packet header. This modification can be performed in software. This modification would benefit the by providing a method for informing the (units "WKG" and "PROTN" of the receiver 14) of their status (i.e. working / protection).

3. Claims 18, 19, 21, 23, 24, 27, 28, 31 - 35, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mazzurco (US 7187649) in view of Shiraishi (US 6,262,973), Parikh (US 4,551,836), and Okabe (US 6,031,838).

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Regarding claims 18, 27, 34, and 38, Mazzurco (fig. 4) teaches a set of forwarding planes that includes first and second forwarding planes (fig. 4 units "WKG and "PROTN" of cross-connect switch 14) configured to receive packets from a plurality of interface modules (fig. 4 units "WKG and "PROTN" of cross-connect matrix) and transmit received packets to a plurality of interface modules (fig. 4 units "WKG and "PROTN" of cross-connect matrix). Note bi-directional flow of packets.

Mazzurco (fig. 4) teaches a first interface module (fig. 4 box 28) coupled to the first and second forwarding planes, the first interface module receiving packets contained in an incoming stream at an ingress port and transmitting the packets to the first forwarding plane and the second forwarding plane, the first interface module further receiving packets from each of the first and second forwarding planes. Note bi-directional flow of packets.

Although Mazzurco (fig. 4) teaches selecting (upon detection of a failure, col. 4 lines 40-43) and transmitting at an egress port packets (fig. 4 see transmission from box 28 to box 16), the reference is silent on transmitting at an egress port packets from a selected one of the first and second forwarding planes.

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Shiraishi teaches selected one of the first and second forwarding planes (failure, selecting signal from either wireless channel and protection channel, abstract).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Mazzurco (fig. 4) by in the event of failure transmitting only the non-failed signal, as shown by Shiraishi. This modification can be performed according to the teachings of Shiraishi. This modification would benefit the system by not transmitting data that is likely to be corrupted.

Although the combination teaches a controller to designate the first and second forwarding planes (Mazzurco: fig. 4 working and protection channel, col. 3 lines 34-37), the combination is silent on a controller to designate the first and second forwarding planes when the set includes three or more forwarding planes.

Mazzurco (fig. 2) teaches a controller to designate the first and second forwarding planes when the set includes three or more forwarding planes (fig. 2 channels 24a, 24b, 26, col. 3 lines 3-5).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by

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adding additional working channels, as shown by Mazzurco (fig. 2). This modification would benefit the system by allowing for added redundancy in the system.

The combination is silent on wherein identical state information is maintained in the two forwarding planes based upon state information obtained from the transmitted data packets.

Parikh teaches identical state information is maintained in the two forwarding planes (col. 2 lines 37-39).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by storing identical state information in the switching fabrics (Mazzurco: fig. 2 units "WKG" and "PROTN" of the receiver 14). This modification can be performed in software. The suggestion for the modification is the standby processor can be selected if the active processor fails (Parikh: col. 2 lines 37-39).

The combination is silent on the state information obtained from the transmitted data packets.

Okabe teaches the state / control information being obtained from the incoming data packets (adding, onto cell

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header, active/standby identification, col. 4 lines 8-11).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by transmitting state information / (active standby) in the packet header. This modification can be performed in software. This modification would benefit the by providing a method for informing the (units "WKG" and "PROTN" of the receiver 14) of their status (i.e. working / protection).

Regarding claims 19, 28, and 35, a routing engine, coupled to each of the first and second forwarding planes, for computing route information using routing protocols (Mazzurco: routes information, col. 3 lines 40-43).

Regarding claims 21, 31, and 37, the first interface module selects one of the first or second forwarding planes in response to a signal indicating the status of one or more of the forwarding planes (Mazzurco: unfailed working channels, col. 3 lines 13-17).

Regarding claims 23 and 32, the received packets comprise at least one of data packets or control packets (Mazzurco:

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Selector 28 receives two information lines, col. 3 lines 3-6).

Examiner corresponds the applicant's data packets with the information of Mazzurco.

Regarding claims 24, 33, the data packets comprise historical state information (Parikh: col. 2 lines 37-39).

4. Claim 17 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mazzurco, Parikh, and Okabe as applied to claim 16 above, and further in view of Shiraishi.

The combination is silent on the switchover unit selects one of the two forwarding planes or the selected two forwarding planes in response to receipt of a signal indicating the status of one or more of the two forwarding planes or the selected two forwarding planes.

Shiraishi teaches selecting one of the two forwarding planes or the selected two forwarding planes in response to receipt of a signal indicating the status of one or more of the two forwarding planes or the selected two forwarding planes. (failure, selecting signal from either wireless channel and protection channel, abstract).

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Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Mazzurco (fig. 4) by in the event of failure transmitting only the non-failed signal, as shown by Shiraishi. This modification can be performed according to the teachings of Shiraishi. This modification would benefit the system by not transmitting data that is likely to be corrupted.

5. Claim 20, 29, and 36 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mazzurco, Shiraishi, Parikh, and Okabe as applied to claims 19, 28, and 35 above, and further in view of Ofek (US 6,778,536).

Although the combination teaches routing via route information computed by the routing engine, the combination is silent on each of the first and second forwarding planes forwards received packets for transmission based on address information contained in respective packets.

Ofek teaches routing via received packets for transmission based on address information contained in respective packets (specific routing information in the packet's header, col. 11 lines 3-8).

Therefore it would have been obvious to one of ordinary

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skill in the art, to modify the system of combination by the first and second forwarding planes forwards received packets for transmission based on address information contained in respective packets, as suggested by Ofek. This modification can be performed in software. This modification would benefit the system since this is the standard method of routing and following this procedure would allow the system to be more easily integrated into larger systems.

6. Claim 22 and 30 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mazzurco, Shiraishi, Parikh, and Okabe as applied to claims 19 and 28 above, and further in view of Crocker (US 7,197,052).

The combination is silent on the state information comprises configuration information associated with the routing engine.

Crocker teaches on the state information comprises configuration information associated with the routing engine (routing engine configured to receive updated configuration and/or state information, col. 17 lines 28-33).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by updating the routing engine with updated configuration

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information, as shown by Crocker. This modification can be performed in software. This modification would benefit the system by ensuring that the routing engine routes the current incoming data according to the current system requirements.

Response to Arguments

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (571) 272-3165. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Ronald Abelson
Examiner
Art Unit 2616
